SYSTEM AND METHOD TO IMPROVE FITNESS TRAINING

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I.   Cross Reference to Related Applications

This is a continuation-in-part application which claims priority from, U.S. Patent Application Serial No. 09/977,577, filed 10/15/01, U.S. Patent Application Serial No. 09/829,757 filed 4/10/01, which is a continuation-in-part application which claims priority from and incorporates by reference, U.S. Patent Application Serial Number 60/196,498, filed April 12, 2000, now abandoned, all bearing the same title and all incorporated by reference.

II.   Technical Field of the Invention

The present invention pertains to an electrical digital computer machine and a data processing system, methods of making and for using the machine, products produced thereby, as well as data structures and articles of manufacture pertaining thereto, as well as all necessary intermediates, all in the field of computerized aspects of machine-based fitness training. More particularly, this invention relates to a digital electrical computer network and methods related thereto for enabling people to program a cardiovascular exercise routine on a personal computer or the like and then have that exercise routine downloaded to a piece of fitness equipment, such as a treadmill. In a more particular embodiment, a virtual private network, or web-based system, makes available a library of preprogrammed exercises, preferably with means for modifying a routine from the library, or for creating a new routine by selecting the type of cardiovascular fitness equipment, the duration of the exercise routine, the number of time intervals, the exercise intensity, and the speed for each interval. Customized routines are stored by the system for future use or reference. Ancillary features for use by a subscriber during a exercise routine are also provided.

III.   Background of the Invention

Cardiovascular fitness equipment such as stationary bikes and treadmills, do not allow sufficient customization of the exercise routine by the person training with the equipment. The person exercising is limited to a selection of, say, and just a dozen routines. Some physical fitness experts recommend a particular series of exercise intensity levels for specific time intervals. Physical fitness equipment does not provide an adequate programming interface to customize the exercise routine.

The known interfaces for cardiovascular fitness equipment are cumbersome for inputting data. Usually, the equipment also has a poor input device. Typically a keypad with a few, relatively small buttons is mounted on the cardiovascular a fitness machine. The keypad is difficult to manipulate while exercising. For example, it is necessary to focus one's line of vision to a small keypad and press buttons to adjust the parameters of the exercise routine. If this is done while running on a treadmill, the person may lose their sense of balance or mistakenly enter incorrect values.

Typically, the interfacing of cardiovascular fitness equipment has poor graphical presentation and format. Usually the input screen is constructed of a series of LED lights. The graphical interface is uninteresting and does not offer a visually stimulating experience.

The state of the art, prior to the instant invention, cannot be said to be "user friendly." It is to the contrary—limited and cumbersome. Many people are indeed bored while exercising on physical fitness equipment. Perhaps this leads people to read magazines or watch television while exercising on treadmills and stationary bikes, as contrasted with being inspired or even engaged by the equipment. Or worse, the people do not exercise as much because it is not as much fun as other things.

IV. Brief Summary of the Invention

A. Objects of the Invention

The objects and advantages of the present invention are:

It is an object of the present invention to provide a computer system that addresses the prior art issues discussed above.

It is another object of the present invention to provide a method for creating a personalized exercise routine with at least one user interface used in connection with forming machine-readable instructions protected as private to a user subsequently carrying out the exercise routine on an exercise machine.

It is still another object of the invention to provide such a method for providing the user with at least one user interface to define the personalized exercise routine, and / or to control the exercise machine to carry out the exercise routine on the exercise machine, said machine instructions protected as private to the user.

It is yet another object of the present invention to provide a method for storing the personalized exercise routine formed in the machine-readable instructions in a memory device, followed by user-triggered engaging of the machine-readable instructions to control the exercise machine in carrying out the personalized exercise routine.

It is a further object of the present invention to supplement activity pertaining to health improvement by making the time spent using physical fitness equipment more productive.

It is still a further object of the present invention to provide ancillary features, such as Internet-type services, to those exercising on cardiovascular fitness equipment.

It is yet a further object of the present invention to provide capability for checking e-mail, stock prices, and news reports while exercising.

It is yet a further object of the present invention to provide capability for

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entertainment, such as by seeing horoscopes, reports on topics of interest and hobbies.

It is even more an object of the present invention to provide capability for delivering Internet media to people while they use fitness equipment to improve the value of the time spent while exercising.

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B.   Summary of the Invention

In accordance with the objects of the present invention, in view of the needs for the invention apparent from elsewhere herein, the present invention includes a computer system that gives people the ability to program a cardiovascular exercise routine on a personal computer and then have that exercise routine downloaded to a piece of fitness equipment, such

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as a treadmill. Via a virtual private network, and / or a web-based system, a library of preprogrammed exercises is made available in a way that offers users the ability to modify a routine from the library, or to create a new routine by selecting the type of cardiovascular fitness equipment, the duration of the exercise routine, the number of time intervals, the exercise intensity, and the speed for each interval. Customized routines are stored by the system for

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future use or reference.

The exercise equipment is networked via a virtual private network that provides access, for example, to a host system. The fitness routine is transmitted from the personal computer to the fitness equipment via the network. The personal computer can also be used for obtaining, via communication over the network an agreement to abide by gym rules, such as a contract with an "accept" button on a screen at the personal computer.

In any case, the system loads the fitness program on the controller of the exercise equipment. Further, the system may be capable of "learning" the user's habits and preferences.

A viewable screen and a speaker jack are attached to the exercise equipment.

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Once the person exercising has initiated the fitness routine, information is presented from the

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Internet onto the viewable monitor. The format of the display is big and bold so as to be easily viewable by a person exercising. The person exercising can navigate the Internet by browser or in such ways as use a device such as a video game joystick, flexible touch pad on the handles of the equipment, or the browsing experience may be preprogrammed to be hands-

5   free.

The person exercising may choose to use a heart rate monitor and other sensors to measure physical exertion. The system collects data on the heart rate of the person exercising, and data on the actual speed and intensity of the exercise. The system collects data electronically and then stores the data on the system. The system has the ability to allow

10   people to retrieve, manipulate, display, and separately store this data.

More particularly, the foregoing can be carried out by a machine (programmed computer) methods for making and using it, products produced by the method, data structures, and necessary intermediates, collectively referenced herein after as the method (for the sake of brevity). Accordingly the invention can be illustrated as a method for creating a personalized

15   exercise routine with at least one user interface used in connection with forming machine-readable instructions protected as private to a user subsequently carrying out the exercise routine on an exercise machine, the method including the steps of: providing the user with at least one user interface to define the personalized exercise routine; forming machine-readable instructions to control the exercise machine to carry out the exercise routine on the exercise

20   machine, said machine instructions protected as private to the user; storing the personalized exercise routine formed in the machine-readable instructions in a memory device; and user-triggered engaging of the machine-readable instructions to control the exercise machine in carrying out the personalized exercise routine.

Any of the embodiments herein can be carried out with the step of forming

25   machine-readable instructions to control the exercise machine includes the steps of:

associating the exercise routine with a first exercise machine to produce a first set of signals; and subsequently translating the first set of signals into the machine-readable instructions.

In another view, a method includes creating a personal exercise routine with at least one user interface for forming machine-readable instructions engaged by a user

5   subsequently carrying out the exercise routine on an exercise machine, the method including the steps of: using the at least one user interface to enable the user to create the personal exercise routine; associating the exercise routine with a first exercise machine to produce a first set of signals; translating the first set of signals into the machine-readable instructions; storing the personal exercise routine formed in the machine-readable instructions in a memory

10   device; and engaging of the machine-readable instructions to control the exercise machine in carrying out the personal exercise routine.

Any of the embodiments herein can be carried out with the step of storing the personal exercise routine includes storing medical information and a charge card number for the user.

15   Any of the embodiments herein can be carried out by including the step of: forming a profile of the user; and protecting the profile of the user as private to the user, along with said machine-readable signals.

Any of the embodiments herein can be carried out by including the step of: forming a profile of the user; and protecting the profile of the user as private to the user, along

20   with said machine-readable signals.

Any of the embodiments herein can be carried out with a computer network that provides users the ability to program a cardiovascular exercise routine on a personal computer and download the programmed routine to a piece of fitness equipment.

Any of the embodiments herein can be carried out with a virtual private network,

25   the web-based system makes available a library of modifiable preprogrammed exercises and

routines.

Any of the embodiments herein can be carried out with a customized routine creatable by selecting a type of cardiovascular fitness equipment, the duration of an exercise routine, a number of time intervals, exercise intensity, and a speed for each interval.

5   Any of the embodiments herein can be carried out with a customized routine stored by the system for future use or reference.

Any of the embodiments herein can be carried out with the customized routine added to the library.

Any of the embodiments herein can be carried out such that users who are not

10   gym subscribers to the system can walk in to a gym and swipe a credit card or smart card for access to the system.

Any of the embodiments herein can be carried out with a card reader on the exercise equipment and/or at a reception desk.

Any of the embodiments herein can be carried out such that users must check

15   availability of exercise equipment and acknowledge agreement with gym rules and regulations on a personal computer.

Any of the embodiments herein can be carried out with online purchases that can be made using the system, e.g., by swiping a credit card.

Any of the embodiments herein can be carried out with personal profiles

20   transferable between gyms utilizing the same system or linked systems.

Any of the embodiments herein can be carried out with exercises that use multiple types of exercise equipment.

Any of the embodiments herein can be carried out with customized video, TV, or electronic magazines for the user.

25   Any of the embodiments herein can be carried out with the user enabled to shop

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while exercising.

Any of the embodiments herein can be carried out with the user enabled to view e-mail, stock prices, and/or news reports while exercising.

Any of the embodiments herein can be carried out with the user entertained by viewing horoscopes, and/or reports on topics of interest and hobbies, presented via the system.

Any of the embodiments herein can be carried out with Internet media delivered to users while using cardiovascular fitness equipment.

Any of the embodiments herein can be carried out with a cardiovascular exercise routine programmed on a personal computer and downloaded to a piece of fitness equipment.

Any of the embodiments herein can be carried out with the exercise equipment networked via a virtual private network that provides access to a host system.

Any of the embodiments herein can be carried out with the fitness routine transmitted from the personal computer to the fitness equipment via the network.

Any of the embodiments herein can be carried out with the system loading the fitness program into the controller of the exercise equipment.

Any of the embodiments herein can be carried out with a viewable monitor and a speaker jack provided on the exercise equipment.

Any of the embodiments herein can be carried out with information form the Internet presented via the viewable monitor.

Any of the embodiments herein can be carried out with the user navigating the Internet while exercising by use of a device such as a video game joystick, flexible touch pad on the handles of the equipment, or the browsing experience preprogrammed to be hands-free.

Any of the embodiments herein can be carried out with hands-free programming allowing the user to select the content and presentation format at a time prior to beginning the exercise routine.

Any of the embodiments herein can be carried out with the user exercising choosing to use a heart rate monitor and/or other sensors to measure physical exertion.

Any of the embodiments herein can be carried out with the system collecting data on the heart rate of the user exercising, and data on the actual speed and intensity of the exercise routine.

Any of the embodiments herein can be carried out with the system collecting data electronically and then storing the data in system memory.

Any of the embodiments herein can be carried out with the system allowing users to separately retrieve, manipulate, display, and store the data.

Any of the embodiments herein can be carried out with a treadmill equipped with a display screen, a joystick control, and a heart rate monitor sensor.

Any of the embodiments herein can be carried out with the treadmill equipped with a viewable monitor display, a numeric keypad, a joystick, input devices equipped with buttons and touch pad, a heart rate monitor, a hand held control unit with buttons, and a magnetic strip card reader.

Any of the embodiments herein can be carried out with the users using a calendar function to schedule a particular piece of exercise equipment for an individual date or series of dates.

Any of the embodiments herein can be carried out with the users using a calendar function to schedule a use of a group of pieces of exercise equipment, and order of use, for an individual date or series of dates.

Any of the embodiments herein can be carried out with a exercise schedule created by the system for the individual, and stored electronically on a computer or on a disk for non-networked machines.

Any of the embodiments herein can be carried out with the schedule indicating a

group of pieces of exercise equipment, and order of use, for an individual date or series of

dates, for one person or a group of people.

Any of the embodiments herein can be carried out with the system downloading

parameters of an exercise routine to a particular piece of exercise equipment when the user

5   identifies himself to the system.

Any of the embodiments herein can be carried out with the system configuring

the cardiovascular fitness equipment of a gym on a virtual private network.

Any of the embodiments herein can be carried out with the fitness equipment

configured with a display monitor to allow viewing of Internet-type media.

10   Any of the embodiments herein can be carried out with the cardiovascular fitness

equipment having connectivity to a virtual private network that provides access to a host

system.

Any of the embodiments herein can be carried out with a user of the system

having the ability to logon to the virtual private network from a personal computer that has

15   connectivity via a modem or like technology.

Any of the embodiments herein can be carried out with connectivity to the world

wide web, or public Internet provided via the host system.

Any of the embodiments herein can be carried out with the user surfing the

Internet while exercising on the fitness equipment.

20   Any of the embodiments herein can be carried out with the fitness equipment

having computer screen.

Any of the embodiments herein can be carried out with software providing a web

browser interface on the computer screen of the exercise equipment.

Any of the embodiments herein can be carried out with information presented

25   from the Internet onto the computer screen of the exercise equipment.

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Any of the embodiments herein can be carried out with text, audio, and graphical information presented on a variety of subjects in the form of news, entertainment, financial market data, weather reports, electronic mail, shopping, and advertising, among other subjects.

Any of the embodiments herein can be carried out with the system providing access to all types of subjects and types of information available on the Internet.

Any of the embodiments herein can be carried out with the format of the display preferably big and bold so as to be easily viewable by the user while exercising.

Any of the embodiments herein can be carried out with the user navigating, or "surfing", the Internet by use of an interface such as a video game joystick while exercising.

Any of the embodiments herein can be carried out with hands-free surfing available, with the browsing being preprogrammed to automatically change screens.

Any of the embodiments herein can be carried out with parameters of the fitness routine including the type of equipment, the duration of the session, the intensity level, and a pattern of variation of the intensity level.

Any of the embodiments herein can be carried out with the system collecting and storing the electronic data obtained by a sensor.

Any of the embodiments herein can be carried out with sensor data retrieved, manipulated, displayed, and formatted into reports using a personal computer and the host system.

Any of the embodiments herein can be carried out with the reports stored for future reference.

Any of the embodiments herein can be carried out with reports shared with other persons computers at the discretion of the user.

Any of the embodiments herein can be carried out with all types of cardiovascular fitness equipment accommodated by the system.

Any of the embodiments herein can be carried out with the cardiovascular equipment comprising one of at least a treadmill, an elliptical trainer, a stationary bike, a stationary ski machine, a stationary rowing machine, and resistance type equipment.

Any of the embodiments herein can be carried out with the virtual private network including one or many gym sites.

Any of the embodiments herein can be carried out with each gym site housing either a single type of exercise equipment or a variety of types of equipment.

Any of the embodiments herein can be carried out with a multitude of personal computers accommodated by the virtual private network.

Any of the embodiments herein can be carried out with a single or several host systems available depending upon geography, functionality, and networking technology.

Any of the embodiments herein can be carried out with the fitness equipment in the user's own home, at a gym or spa, at the exercise facility of an apartment complex, hotel, or motel.

Any of the embodiments herein can be carried out with the virtual private network as a network of computer devices in which access is controlled by assigning a user identification name and a password to each device, which may be a unique network or part of other private networks, including at least America Online, and Prodigy, or the like.

Any of the embodiments herein can be carried out with the system operating over the world wide web.

Any of the embodiments herein can be carried out with a home gym having no connectivity to any type of computer network is accommodated.

Any of the embodiments herein can be carried out with an operator of a host system performing all tasks necessary to create, populate, and maintain a business operations database.

Any of the embodiments herein can be carried out with the business operations database containing information on gym sites, quantity and types of fitness equipment at each site, and parameters of exercise routines.

Any of the embodiments herein can be carried out with an operator of a host system creating and maintaining a client profile database containing a profile for each user subscribing to the system.

Any of the embodiments herein can be carried out with users provided access to a virtual private network to select an exercise routine to be performed during a future exercise session.

Any of the embodiments herein can be carried out with text and graphics provided through a web browser interface to describe the parameters of an exercise routine.

Any of the embodiments herein can be carried out with the user prompted to choose an exercise from the library.

Any of the embodiments herein can be carried out with the user customizing a routine from the library.

Any of the embodiments herein can be carried out with a user creating a unique routine.

Any of the embodiments herein can be carried out with parameters of customized exercise routines, including information on type of equipment, duration of the exercise, and level and pattern of intensity, stored by the system.

Any of the embodiments herein can be carried out with a controller of the exercise equipment controlled by the exercise parameters.

Any of the embodiments herein can be carried out with system users accessing the virtual private network to schedule the exercise session, through a web browser interface, selecting the location, date, and time the exercise routine to be accomplished.

Any of the embodiments herein can be carried out with users accessing the virtual private network to configure web viewing through a web browser interface, configuring screens of the web browser, which is part of the exercise equipment, and selecting types of content to be viewed while exercising, via the virtual private network.

5   Any of the embodiments herein can be carried out with users initiating an exercise session by mounting a piece of exercise equipment and presenting identification by keying in an identification name and password on a keypad, or through alternative technology such as a smart card or magnetic strip card reader.

Any of the embodiments herein can be carried out with visual and audio Internet

10   media including but not limited to: reading and responding to E-mail; reviewing and receiving messages from a paging service; viewing weather reports; viewing airport travelers report; viewing national news reports; viewing local news reports; checking stock quotes; viewing sports reports; listening to music; viewing music videos; viewing a fashion make-over; checking movie reviews and listings; checking entertainment news and reports; reading book reviews;

15   participating in chat rooms; reviewing job postings; viewing vacation literature; reviewing exercise tips; and shopping online.

Any of the embodiments herein can be carried out with data on heart rate, speed, intensity level, and duration of the exercise session collected and stored by the system.

Any of the embodiments herein can be carried out with management tools for

20   exercise data are provided by the system.

Any of the embodiments herein can be carried out with users reviewing exercise data and Internet content from pervious exercise sessions.

Any of the embodiments herein can be carried out with the user enabled to view and configure reports to display data including intensity levels of the exercise routine and heart

25   rate through a web browser interface.

Any of the embodiments herein can be carried out with a user and an operator of a host system gaining access to the virtual private network to conduct consultations.

Any of the embodiments herein can be carried out with tool sets offered to gym owners, the manufacturers of fitness equipment, personal trainers, doctors, and users allowing analysis of data collected and stored by the system to improve user fitness, to optimize the utilization of the gym's assets, to enhance consultation by personal trainers and medical professionals, and for use in improving the design and performance of fitness equipment, through a web browser interface.

Any of the embodiments herein can be carried out with an operator of a host system creating, populating, and maintaining a library of exercise routines.

Any of the embodiments herein can be carried out with a set of parameters for each type of fitness equipment input into a database, the parameters including duration of an exercise session, intensity level, and pattern of intensity.

Any of the embodiments herein can be carried out with the pattern in a wavelike profile, a profile steadily increasing then steadily decreasing, or a simulation of a race on an actual racecourse or on a fictitious racecourse.

Any of the embodiments herein can be carried out with the exercise routine accompanied by video, audio, or text messages to simulate an actual running event.

Any of the embodiments herein can be carried out with the fitness routine library of the system allowing programming of exercises in advance, prior to a user mounting and using the fitness equipment.

Any of the embodiments herein can be carried out with access to the fitness routine library obtained via a web-based system via a virtual private network.

Any of the embodiments herein can be carried out such that a user can choose from an assortment of preprogrammed exercises in the library.

Any of the embodiments herein can be carried out such that an operator of a host system creates a resource pool database of available exercise equipment.

Any of the embodiments herein can be carried out such that the database also contains information on gym sites that are part of the virtual private network.

5 Any of the embodiments herein can be carried out such that the database also contains information on the quantity and types of fitness equipment at each gym site.

Any of the embodiments herein can be carried out such that the operator of the host system creates and maintains a resource pool database of personal trainers and medical professionals qualified to advise clients on diet, nutrition, and exercise or training.

10 Any of the embodiments herein can be carried out such that the operator of the host system creates and maintains a client profile database wherein the profile for each user includes at least name, e-mail address, mailing address, and telephone number.

Any of the embodiments herein can be carried out such that the system assigns a unique user identification name and password to each user.

15 Any of the embodiments herein can be carried out such that the user logs on to the system and reviews profile information and revises information via a web browser interface, by inputting a subscriber identification number and password to gain access to the personal account of the user.

Any of the embodiments herein can be carried out such that the user inputs

20 personal information including birth date, gender, weight, height, body fat composition, and health history.

Any of the embodiments herein can be carried out such that the user is prompted to indicate any gym membership, or if a home gym is available.

Any of the embodiments herein can be carried out such that, if a gym

25 membership exists, the name of gym, the gym location, and the gym membership identification

number are input by the user.

Any of the embodiments herein can be carried out such that the system can locate a gym within an area of residence, business, or travel destination.

Any of the embodiments herein can be carried out such that the user gains access to the virtual private network via a personal computer in order to select an exercise routine to perform at some future time.

Any of the embodiments herein can be carried out such that the user selects an exercise routine at the beginning of exercising, via the input device on the exercise equipment.

Any of the embodiments herein can be carried out such that the user selects the type of exercise equipment through a web browser interface.

Any of the embodiments herein can be carried out such that text and graphics are used to describe parameters of the exercise through a web browser interface.

Any of the embodiments herein can be carried out such that the system prompts the user to choose exercise parameters from the library.

Any of the embodiments herein can be carried out such that the user customizes a routine from the library, or creates a unique routine and stores those routine parameters on the system if none of the preprogrammed routines in the library are satisfactory.

Any of the embodiments herein can be carried out such that the parameters of the exercise routines, including type of equipment, duration of exercise, and level and pattern of intensity, are stored electronically by the system.

Any of the embodiments herein can be carried out such that a controller of the exercise equipment is loaded with the exercise parameters.

Any of the embodiments herein can be carried out such that the controller controls function of a treadmill motor, driving a belt of the treadmill, and an actuator that increases or decreases incline of the treadmill, and any other related input/output devices.

Any of the embodiments herein can be carried out such that the user delegates this function to a personal trainer or medical professional.

Any of the embodiments herein can be carried out such that the users of the system gain access to the virtual private network to schedule the exercise session.

Any of the embodiments herein can be carried out such that the user selects the location, date, and time an exercise routine through a web browser interface.

Any of the embodiments herein can be carried out such that the user delegates this function to a travel agent, a personal trainer, or medical professional.

Any of the embodiments herein can be carried out such that the user selects a exercise location.

Any of the embodiments herein can be carried out such that the exercise location may be the user's home, a gym, or a spa that is part of the virtual private network.

Any of the embodiments herein can be carried out such that the user chooses a date and time for the exercise routine.

Any of the embodiments herein can be carried out such that the system allows one exercise session, multiple exercise sessions, or a recurring session to be scheduled.

Any of the embodiments herein can be carried out such that scheduled routines are synchronized with a calendar function of an electronic personal information manager.

Any of the embodiments herein can be carried out such that the system confirms that exercise equipment is available and electronically notify the user, or confirm on an electronic calendar of the user.

Any of the embodiments herein can be carried out such that, in the event that there is a conflict with availability of exercise equipment or an event on the calendar of the electronic personal information manager, the user is prompted to resolve the conflict.

Any of the embodiments herein can be carried out such that users gain access

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to the virtual private network to configure web viewing.

Any of the embodiments herein can be carried out such that, through a web browser interface, the user configures the screens of the web browser and selects the types of content for viewing while exercising via the virtual private network.

5   Any of the embodiments herein can be carried out such that users use the system to select the type of Internet material to be presented during their exercise.

Any of the embodiments herein can be carried out such that the user configures the display on the exercise equipment to have split screens.

Any of the embodiments herein can be carried out such that the screen may be

10   split to show a variety of information at one time.

Any of the embodiments herein can be carried out such that the user selects the method for web browsing.

Any of the embodiments herein can be carried out such that the user has the option to program "hands free surfing", or the option to use input devices.

15   Any of the embodiments herein can be carried out such that wherein stock is traded while exercising online.

Any of the embodiments herein can be carried out such that the system provides an option to allow the user to select the order in which web subject content is provided, the duration of each presentation, and the option to not display sensitive or confidential information.

20   Any of the embodiments herein can be carried out such that the user chooses whether or not to have a selection of online services presented for a predetermined interval.

Any of the embodiments herein can be carried out such that the duration of the display interval may be scaled based upon the speed or intensity of the exercise level or the interval may be determined by direct user input.

25   Any of the embodiments herein can be carried out such that the user chooses

which topics will be presented during the exercise routine.

Any of the embodiments herein can be carried out such that the user chooses the type of Internet material that is to be displayed during exercise.

Any of the embodiments herein can be carried out such that the user chooses whether or not to have audio media presented during the exercise routine.

Any of the embodiments herein can be carried out such that the user begins the exercise session.

Any of the embodiments herein can be carried out such that the user mounts a treadmill and enters identifying information to the system either by keying in an identification name and password, or using some other type of technology such as a smart card or magnetic strip card reader.

Any of the embodiments herein can be carried out such that the user chooses whether or not to connect to a heart rate monitor or other device to collect vital signs.

Any of the embodiments herein can be carried out such that the system loads the exercise parameters into the controller of the exercise equipment based upon user preference.

Any of the embodiments herein can be carried out such that wherein the system directs visual and audio media to the user.

Any of the embodiments herein can be carried out such that online services include: receive, review, and respond to E-mail; review and receive messages from a paging service; view weather reports; view airport travelers report; view national news reports; view local news reports; check stock quotes; view sports reports; listen to music; view music videos; view a fashion make-over; check movie reviews and listings; check entertainment news and reports; see book reviews; participate in chat rooms; review job postings; see vacation literature; review exercise tips; make reservations for restaurants; and shop online.

Any of the embodiments herein can be carried out such that the system collects and stores data on the heart rate, speed, intensity level, and duration of the exercise.

Any of the embodiments herein can be carried out such that the system monitors the actual speed and intensity of resistance for the user while exercising.

Any of the embodiments herein can be carried out such that speed and intensity data is used as an input to a video game or virtual race.

Any of the embodiments herein can be carried out such that video images of a course are programmed to be synchronized with the speed and incline of a belt of the exercise equipment.

Any of the embodiments herein can be carried out such that Internet content is delivered to the user, but is not personalized.

Any of the embodiments herein can be carried out such that the system downloads the parameters of the exercise routine to the fitness equipment that is part of the virtual private network.

Any of the embodiments herein can be carried out such that the system allows the user to change the intensity of the exercise, during the exercise session by using a keypad or other input device.

Any of the embodiments herein can be carried out such that Internet content may be programmed to turn off so as to not disturb the person exercising at a peak moment.

Any of the embodiments herein can be carried out such that the system allows the user to pause and restart exercise routines.

Any of the embodiments herein can be carried out such that the system stores data during a pause.

Any of the embodiments herein can be carried out such that heart rate data and other vital statistics are collected and stored electronically by the system.

Any of the embodiments herein can be carried out such that users access to the virtual private network to review exercise data and Internet content from previous exercise sessions.

Any of the embodiments herein can be carried out such that exercise routines and exercise sessions are scheduled for the users group as a single entity.

Any of the embodiments herein can be carried out such that users belong to one or several groups

Any of the embodiments herein can be carried out such that the system allows users to share access to their exercise data with others including users friends, doctors, personal trainers, and physical therapist.

Any of the embodiments herein can be carried out such that the user initiates the programmed routine exercise.

Any of the embodiments herein can be carried out such that the system provides the gym owner reports and graphical tools to quantify the usage of each piece of fitness equipment.

Any of the embodiments herein can be carried out such that the system creates reports relating populating of the various pieces of equipment to show which type of equipment is most popular trends in preference, and user exercise habits over a range of time.

Any of the embodiments herein can be carried out such that the system tracks attendance of users with reservations.

Any of the embodiments herein can be carried out such that the system provides attendance records of the users to the gym personnel.

Any of the embodiments herein can be carried out such that the system manages gym membership or interfaces with an existing system.

Any of the embodiments herein can be carried out such that the system tracks

fees and dues owed by gyms users, issues invoices, and manages account balances.

Any of the embodiments herein can be carried out such that the system allows gym users to view their account status and balance.

Any of the embodiments herein can be carried out such that the operator of the host system may delegate all or partial responsibility for maintaining and operating the system.

Any of the embodiments herein can be carried out such that an existing virtual private network such as America Online or Prodigy may be contracted to operate the system.

Any of the embodiments herein can be carried out such that a switch device is used to network the devices at a site.

Any of the embodiments herein can be carried out such that a network may contain one or more switches per site for local area connectivity.

Any of the embodiments herein can be carried out such that a router is used for wide area connectivity to the virtual private network.

Any of the embodiments herein can be carried out such that, in the event that the wide area connectivity or any part of the local area network is not operating, the treadmill is able to operate based on a set of default exercise parameters, or from a disk.

Any of the embodiments herein can be carried out such that preprogrammed fitness routines and Internet-type media are stored in memory that is part of, or accessible by, the controller of the fitness equipment.

Any of the embodiments herein can be carried out such that the name of the gym in which the fitness equipment is physically located appears on the display monitor.

Any of the embodiments herein can be carried out such that the gym name is a hyperlink to the home web site of the gym.

Any of the embodiments herein can be carried out such that the name of the user appears on the display monitor.

Any of the embodiments herein can be carried out such that the week for which the user plans an exercise routine appears on the display monitor.

Any of the embodiments herein can be carried out such that the days of the week are listed in boxes at the bottom of the display monitor on the tabs.

5 Any of the embodiments herein can be carried out such that arrows to each side of the day boxes are used to view the next week, by clicking the right arrow button, or the previous week, by clicking the left arrow button.

Any of the embodiments herein can be carried out such that the day boxes form a hyperlink to the calendar function of the personal information manager of the client or gym.

10 Any of the embodiments herein can be carried out such that an input box for the selecting a duration of an exercise routine appears on the display monitor.

Any of the embodiments herein can be carried out such that the input box provides a dropdown menu selection.

Any of the embodiments herein can be carried out such that a start time box for the exercise routine appears on the display monitor.

15 Any of the embodiments herein can be carried out such that dropdown menu selection.

Any of the embodiments herein can be carried out such that the start time box provides an equipment selection appears on the display monitor.

20 Any of the embodiments herein can be carried out such that equipment selection input box provides a dropdown menu that listing the equipment of the named gym.

Any of the embodiments herein can be carried out such that use of a heart rate monitor is selectable.

Any of the embodiments herein can be carried out such that a monitor selection

25 activates a hyperlink to a site containing health-monitoring reports.

Any of the embodiments herein can be carried out such that a speed over time profile of the planned exercise routine appears on the display monitor.

Any of the embodiments herein can be carried out such that the profile displayed may be modified..

5   Any of the embodiments herein can be carried out such that adjustable characteristics of the fitness equipment are adjustable by the user.

Any of the embodiments herein can be carried out such that a user, trainer, or medical professional inputs known health risks of the person to be exercising.

Any of the embodiments herein can be carried out such that the system develops

10   a training plan is performed through input from a trainer or by means of a programmed algorithm.

Any of the embodiments herein can be carried out such that the developed training plan outputs a exercise schedule.

Any of the embodiments herein can be carried out such that the schedule is

15   comprised of exercises from a stored library.

Any of the embodiments herein can be carried out such that the exercise schedule includes exercises not performed on a networked exercise device.

Any of the embodiments herein can be carried out such that a magnetic card reader is part of the network and preferably is mounted to the exercise equipment.

20   Any of the embodiments herein can be carried out such that the user logs onto the system by passing a magnetic strip card through the card reader.

Any of the embodiments herein can be carried out such that a processor of the exercise equipment and accesses the exercise schedule for the user via a server.

Any of the embodiments herein can be carried out such that the host downloads,

25   from a server, to the processor of the exercise equipment, the appropriate exercise parameters.

Any of the embodiments herein can be carried out such that the exercise library stored on a file server that is part of the system.

Any of the embodiments herein can be carried out such that data is processed, to produce a exercise schedule.

Any of the embodiments herein can be carried out such that the exercise schedule references exercise routines that are stored on the network and controls an exercise equipment processor to set characteristics of the equipment appropriately based on the stored routines.

The foregoing, in any combination, summarizes the invention set forth below in a detailed and representative embodiment.

V.   **Brief Description of the Drawings**

Figure 1 is a diagram of a computer network for the method.

Figure 2 represents a local area network of a gym, including the exercise equipment.

Figure 3 shows input and output devices on a representative piece of athletic equipment, e.g., a treadmill.

Figure 4 is flowchart of activities of the method.

Figure 5 is the log in screen for keeping the data secure.

Figure 6 is a detailed flowchart of activities to update personal information.

Figure 7 shows a personalized interface screen that a subscriber to the system has access to when logged via a personal computer.

Figure 8 is a detailed flowchart of activities to plan a personalized exercise schedule.

Figure 9 shows an interface screen to plan a personalized exercise schedule.

Figure 10 is a flowchart of activities to modify an exercise routine.

Figure 11 shows an interface screen to modify an exercise routine.

Figure 12 is a flowchart of activities describing how the client would use the

invention in performing their exercise routine.

Figure 13 depicts the tables that are part of this invention for managing the data

of the clients.

Figure 14 displays the tables for managing the data of the gyms and equipment.

Figure 15 shows an interface screen to update Internet preferences.

Figure 16 is a flowchart of activities describing how to update Internet

preferences.

VI.   Detailed Description of the Drawings

Figure 1 represents the preferred embodiment of the present invention. By way

of an overview, Figure 1 provides a diagram for the present invention. A piece of exercise

equipment **2**, for example has a computer **40**, with a display screen **38** that is connected to

switch device **4** by a cable **26**. The switch **4** is connected to a router **6** by a cable **28**. The

router has connectivity **8** to the public telecommunications network **22** via an Internet service

provider. A home personal computer **14**, with monitor **24**, has connectivity **16** to the public

telecommunications network **22** via an Internet service provider. The host system **1** also has

connectivity to the public telecommunications network **22**, via a cable **30**, a switching device **32**,

another cable **34**, a router **36**, and a connection **12** by an Internet service provider. There is

also connectivity **20** to the World Wide Web **18** via a system managed by the

telecommunications companies.

The system **1** configures the cardiovascular fitness or exercise equipment **2** of a

gym on the public telecommunications network **22**. The cardiovascular fitness equipment **2**

has connectivity **8** to a public telecommunications network **22** that provides access to a host

system **1** and is otherwise shown in Figure 1.

5   A subscriber of this system **1** has the ability to log on to the system **1** from a

personal computer **14** that has connectivity **16** via a modem or like technology. Connectivity **20**

to the World Wide Web **18**, or public Internet is provided via a public telecommunications

network **22**, and can include a linkage with host system **1**, as illustrated for in an exemplary

manner in Figure 1.

10   The subscriber can view Internet media while exercising on a treadmill **2** via the

display monitor **38**. Software is used to provide a web browser interface on the display monitor

38 of the exercise equipment **2**.

The browser interface is a very important part of the present invention in

embodiments carried out at a gym or other such facility. The browser interface may, for

15   example, begin with a screen identifying the gym, such as "WELCOME TO GOLD'S GYM."

The browser interface operates intermediate a web browser and the exercise equipment in

linking the user and local activity to the Internet, as well as in carrying out user profile

instructions, flags, filters, and the like. Text, audio, and graphical information may be presented

on a variety of subjects, such as: news, entertainment, financial market data, weather reports,

20   electronic mail, shopping, and advertising. The present invention is not limited to the subjects

of information listed; the system **1** provides access to all subjects of types and all information

that are available on the Internet. Preferably the format of the display is bigger than usual and

bold so as to be easily viewable by the subscriber while exercising. To navigate the Internet, an

interface device such as a video game joystick **100** is provided. Hands-free surfing is also

available, the browsing being preprogrammed with screens changing automatically. Such programming is carried out using said profile, and coordination of the screens on the monitor or other such display device with the exercise routine. That is, if one were to program a series of screens or sites only by time, and the routine were to be completed more quickly, then the programming would be inappropriate in duration. While a cut off button on the screen can terminate the presentation, coordination is a preferred feature.

The interface can also be used in accessing a virtual private network of, say, a gym, in scheduling an exercise session by selecting and reserving the location, date, and time the exercise routine is to be accomplished. And as is further discussed herein, the browser interface also is used in configuring web viewing, including configuring screens of the web browser (preferably stored on the exercise equipment), and including selecting types of content to be viewed while exercising.

This system **1** gives people the ability to program a cardiovascular exercise routine on a personal computer **14** and then have those exercise routine parameters input into the computer **40** of the cardiovascular fitness equipment. The computer **40** is a programmable electronic device that controls the function of the equipment, such as setting the speed of the motor **95** that drives the treadmill belt **99**, see Figure 3.

The present invention applies to all types of fitness equipment, particularly cardiovascular equipment, including but not limited to treadmills **2**, elliptical trainers, stationary bikes, stationary ski machines, and stationary rowing machines. The present invention also applies to resistance type of equipment, such as weight lifting machines.

The public telecommunications network **22** may accommodate one or many gym sites; each gym may house a single type of exercise equipment or a variety of types of equipment. A multitude of personal computers **14** may be connected to the public telecommunications network **22**.

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There may be a single host system **1** or several host systems, depending upon geography, functionality, and networking technology.

The scope of the invention includes fitness equipment regardless of the nature of the facility in which the fitness equipment is located. The fitness equipment may be in one's own home, at a gym or spa, the exercise facility of an apartment complex, hotel, or motel, etc.

The present invention also applies to a home gym that has no connectivity to any type of computer network.

The words "subscriber(s)", "client(s)" and "user(s)" are used in this document to refer to people that have access to the system **1**.

Figure 1 and Figure 2, by way of an overview, illustrates a network of a gym. The network includes several pieces of exercise equipment **2**, each connected to a switch **4** via a cable **26**. A personal computer **84** is connected to the switch **4** by a cable **90**. The employees or the customers of the gym may use the computer to access the system **1**. Customers may make modifications to their exercise routines or print a copy of their schedule on the printer **80**, which is connected to the switch **4** by a cable **86**. The server **82** is connected to the network by a cable **88**. The server **82** is used to store exercise routines **298** and schedules **310**.

The switch **4** of the gym network is connected to the public telecommunications network **22**, via a cable **28**, a router **6**, and a connection **8** provided by an Internet service provider.

The invention may use wireless connections instead of hard wired connections shown as items **26, 29, 86, 88**, and **90**.

Figure 2 shows only treadmills **2** but the system **1** may include a variety of different types of fitness equipment. A personal computer **84** is part of the network so that

clients, personnel and management of the gym can have access to the system **1**. More than one personal computer **84** may be connected to this network for any given site. A server computer **82** is used to administer programs, store data, and perform network administration functions. Here or elsewhere accessible over the network **22**, one can store or attend to all the tasks necessary to create, populate, and maintain a business operations database, including knowing what kinds of exercise equipment is at each site, and information for translating a routine on one machine into a routine for another. The business operations database contains information on gym sites, quantity and types of fitness equipment at each site, and parameters of exercise routines. Over the network **22**, e.g., by server access, one can also conduct a search for an exercise facility entering an indicator, such as a zip code, equipment type, city, or other such location indicator, enabling a database search to find at least one suitable facility.

More than one server computer **82** may exist on the network per site. A printer **80** is present to print schedules and reports of the exercise sessions for the use of the clients, personnel and management of the gym. A switch device **4** is used to network the devices at a site. A network may contain one or more switches **4** per site for local area connectivity. A router **6** is used for wide area connectivity **8** to the public telecommunications network **22**.

In the event that the wide area connectivity **8** or any part of the local area network or wide area network is not operating, the treadmill **2** is operable based on a set of default exercise parameters, from a disk, or from a server. Preprogrammed fitness routines and Internet-type media are stored in memory that is part of the controller of the fitness equipment **2**.

Note that a disk can be used too as memory means transported to an exercise machine for reading (signals representing the exercise routine) by the exercise machine.

Item **85** represents a card reader. Item 87 represents the reception desk at a

gym as an exemplary admission control system, regulating access to the facility and/or equipment.

Figure 3, by way of an overview, shows a treadmill **2** equipped with a computer **40** and a viewable monitor display **38**, a numeric keypad **96**, a row of push buttons **98**, and a joystick **100**. Preferably the display on the monitor is formatted to be larger than the usual display on a comparably-sized computer screen to facilitate viewing from a greater distance while exercising. Bolding and highlighting are added features to enable this viewing.

Figure 5 also shows input devices on the treadmill **2**. The treadmill **2** is equipped with buttons and touch pad **106**, a heart rate monitor **110**, a hand held control unit **112** with buttons and a thumb operated joystick, and a magnetic strip card reader **94**. The card **92** with magnetic strip **93** is swiped through the reader **94** to identify the client and to access their personalized routine. The client **101** is running on the belt **99** of the treadmill. The motor **95** drives the belt **99**. The actuator **97** sets the angle of the belt **99**. In a preferred embodiment, such detected information as heart rate, intensity, and speed are collected, stored, and analyzed in connection with the routine and health condition of the user, for later analysis. Signals corresponding to the heart rate, speed, and intensity can be communicated from the exercise equipment in an Internet communication for retrieving, manipulating, displaying, and storing at the user's computer.

Figure 3 shows a treadmill **2** equipped with a viewable display monitor **38**. The display monitor **38** is configured to allow a split screen display. One or more split screens may be displayed at a time. Preferably three screens are displayed during the exercise routine. One screen would show the planned exercise routine and actual results obtained, a second screen displays Internet media on topics of personal interest to the subscriber, and the third screen shows advertising preferably tailored to the profile of the subscriber. Touch screen

5

technology could be employed as an input device.

A numeric keypad **96** is present to allow the client **101** to key in exercise parameters and identifying information to the system **1**, such as a client identification number **184** and password **196**. A row of push buttons **98** is used to make selections and inputs to the system. A joystick **100** is used to make selections and inputs to the system. The handrail of the treadmill **2** is equipped with buttons and touch pad **106** to make selections and inputs to the system.

In a preferred embodiment, the exercise routine is protected as private to the user, and not for open examination by a trainer or system operator. Password protection can be a minimum, but encryption such as public/private key is preferred. This is to protect those who may feel sensitive to others looking at such personal information, as well as in protecting information as charge card numbers that could be stolen. It is contemplated that some data may be shared at the discretion of the user, but most of such information will be in the nature of output from the exercise or abstract input inquiries, such as accessing a library of generic exercise routines.

A heart rate monitor **110** attached via a cable, in known manner, is present to monitor hear rate. A hand held control unit **112** with buttons and a thumb-operated joystick is present to use in making selections and inputs to the system **1**.

A card reader **94** is present to allow subscriber identification to the system **1** via a magnetic strip card **92**.

Figure 4 represents a flowchart of activities of the present invention. In block **41** the client logs on to the system **1** by inputting the identification number and password. In block **41**, the screen shown in Figure 5 is displayed on the monitor **24** of the computer **14**.

In block **47** the system **1** reads the customer table **214** to see if the identification

number **184** and the password match **196**. If they match then the system **1** allows the choice of

going to block **42** or block **44**. In block **48**, if they do not match then a message is displayed

that access is denied, and the system **1** is not accessible.

In block **42** the Personal Data button **600** is selected. In block **43** go to Figure 6.

5   In block **44** the Exercise Routines button **510** is selected. In block **45** go to Figure 8. In block

49 the Internet preferences button **656** is selected. In block **45** go to Figure 8.

In block **46** go to Figure 12.

Figure 5 depicts the sign-on screen. A toolbar **370** is across the top of the

screen. The toolbar **370** has the exercise routine button **510**, the personal data button **600**, and

10   the Internet preferences button **656**.

The window **654** has the identification number input box **650** and the password

input box **652**. The customer identification number **184** and the password **196** keeps the data

of the client secure. The customer identification number **184** and password **196** are input in the

sign-in screen. The customer identification number **184** and the identification number **650** must

15   match the information in the customer table **214** to gain secure access to the personal settings

and data. The password **184** keeps the data of the client secure. Without the correct

password, no access is granted.

The personal data button **600** activates the flowchart shown in Figure 6 upon

verification of the correct identification number **184** and password **196**. The exercise routine

20   button **510** activates the flowchart shown in Figure 8 upon verification of the correct

identification number **184** and password **196**. The Internet preferences button **656** activates the

flowchart shown in Figure 16 upon verification of the correct identification number **184** and

password **196**.

Figure 6 represents a flowchart of activities of the present invention. Block **319**

is a connector from Figure 8. Block **320** is a connector from Figure 4. Block **321** is a connector

from Figure 16. In block **322** the monitor **24** displays the screen from Figure 7. In block **324**

read the first name and last name from the customer table **214** that corresponds to the

identification number input in block **41**, and display this information on the screen. In block **326**

read the e-mail address, zip code, telephone number, gender, and date of birth from the

customer table **214** that corresponds to the identification number input in block **41**, and display

this information on the screen. In block **328** read the height, weight, and body mass index from

the customer table **214** that corresponds to the identification number input in block **41**, and

display this information on the screen. In block **330** read the last four digits of the credit card

number from the customer table **214** that corresponds to the identification number input in block

41, and display this information on the screen.

In block **332** types information into the input boxes **608, 610, 620, 624, 628, 612,**

622, 626, 614, 618, 616, and **630**. If the input boxes were blank from the operations in blocks

326, 328, or **330**, then the information will simply fill the field, if the boxes had information then

the data typed will replace the other data. In block **333** make a selection by clicking the down

arrow button **648** and the list **226** will appear as a drop down menu.

In block **334** click the Update button **632**. In block **335** the record will be updated

on the customer table **214** in the row that corresponds to the identification number input in block

41 by writing the data from the e-mail **608**, zip cope **610**, phone **620**, sex **624**, and date of birth

262 input boxes. In block **336** an additional record will be created on the health table **216** that

corresponds to the identification number input in block **41** by writing the data from the health

history input box **614** and the date input box **618**. . In block **337** update the credit card data

and expiration date on the customer table **214** if there are sixteen digits in the credit card input

box **616**.

In block **338** click the log off button **603**. In block **340** log the client off of the

system **1**. In block **342** the flowchart ends.

In block **344** click the exercise routine button **510**. In block **346** go to Figure 8.

In block **348** click the Internet preference button **656**. In block **350** go to Figure

5　16.

In block **352** click the clear button **602** and go to block **322** and repeat the steps

in blocks **324, 326, 328,** and **330**. The tables **214, 216,** and **218** are not updated, any changes

will be lost.

Figure 7 depicts the personal data screen. A toolbar **370** is across the top of the

10　screen. The toolbar **370** has the exercise routine button **510**, the personal data button **600**, and

the Internet preferences button **656**.

Below the toolbar **370** is displayed the identification number **604** of the client, the

clear button **602**, the log off button **603**, and the update button **632**. Below the identification

number **604** is displayed the first name **605** and last name **606** of the client.

Below the names is the e-mail input box **608**, the zip code input box **610**, the

telephone number input box **620**, the gender input box **624**, the date of birth input box **628**.

Next is the weight input box **612**, the height input box **622**, and the body mass index input box

626. Below that is the health history drop down menu box **614**, with the arrow key **648**. Next to

it is the date input box **618**. Below is the credit card input box **616** and the expiration date input

20　box **630**.

The personal data button **600** activates the flowchart shown in Figure 6 upon

verification of the correct identification number **184** and password **196**. The exercise routine

button **510** activates the flowchart shown in Figure 8 upon verification of the correct

identification number **184** and password **196**. The Internet preferences button **656** activates the

flowchart shown in Figure 16 upon verification of the correct identification number **184** and

password **196**.

Figure 8 represents a flowchart of activities of the present invention for planning

exercise sessions. Block **560** is a connector from Figure 4. Block **561** is a connector from

5   Figure 6. Block **562** is a connector from Figure 16. Block **584** is a connector from Figure 10.

Block **566** displays the screen of Figure 9. In block **568** select the week for

which to plan exercises by clicking on the left arrow **124** or right arrow **122** buttons. In block

570 select the day of the week by clicking on a day tab **120**.

In block **572** select the time of the day to exercise by inputting a time in the

10   planned start time input box **126**. In block **574** click on the select gym button **140** and a pop up

list will display a list of gyms from the gym table **260**. Make a selection and it will be displayed

114 on the screen.

In block **576** click the check box **148** if a heart rate monitor is to be used. In

block **578** select the duration of the exercise routine by inputting a number in the duration input

15   box **130**. In block **580** select the type exercise equipment to be used from the exercise input

box **136**.

In block **586** choose an exercise routine by clicking on a select dial **158**. In block

588 click the customize button **160** to modify that exercise routine. In block **594** go to Figure

10.

20   In block **590** click the save button **142** and the data is saved in the schedule **310**

for the identification number 184 and the routine table **298** for the routine identification number

294.

In block **592** click the log off button **146**. In block **593** log the client off of the

system **1**. In block **595** the flowchart ends.

In block **563** click the personal data button **600**. In block **564** go to Figure 6.

In block **565** click the Internet preference button **656**. In block **582** go to Figure 16.

In block **596** click the clear button **144** and go to block **566** and repeat the steps in blocks **567**, **568**, and **570**. The tables **298** and **310** are not updated, any changes will be lost.

Figure 9 shows the screen used to make a personalized exercise schedule. A toolbar **370** is across the top of the screen. The toolbar **370** has the exercise routine button **510**, the personal data button **600**, and the Internet preferences button **656**.

The name of a gym and address **114** appears in the upper right hand corner of the screen. This is the name of the gym in which the fitness equipment is physical located. The name is a hyperlink to the home web site of the gym. Next to the name is a "Select Gym" button **140**. The client may click on this button to see a list of other gym locations, as **260** of Figure 14. By clicking on another selection from that list, the client may select another location to perform their exercise routine.

Below the name of the gym **114** is the name of the client **116**. This is a hyperlink to the personal records of the subscriber. By clicking on this link **116** the subscriber has access to personal information and records, as in Figure 16.

Below the name of the subscriber is the week **118** for which the subscriber is planning exercise routines. The days of the week are listed at the bottom of the screen on the tabs **120**. The arrows to each side of the date box **118** are used to view the next week, by clicking the right arrow button **122**, or the previous week, by clicking the left arrow button **124**. The date **118** is a hyperlink to the calendar function of the personal information manager of the client or gym.

Below the date **118** is the planned start time **126** for the exercise routine. This is

a dropdown menu selection. By clicking on the arrow **128**, the user may select another time for exercising.

Below the planned start time **126** is the input box to select the type of exercise equipment **136** to be used. This is a dropdown menu listing the equipment of the gym **114** that is named at the top of this screen. By clicking on the arrow button **138**, a complete list, **296** on Figure 14, of available equipment at that gym **114** will be listed. The client will click on the type equipment for which they will exercise.

The save button **142** will save the changes made by the client. The clear button **144** will clear all changes made by the client. The Log off button **146** will log off the client from the system **1** after saving the changes made by the client.

The left side of the screen displays the profile **162** of the planned exercise session. In the illustrated embodiment, the height of each column **172** on a graph represents the speed at which the treadmill belt is traveling while the width of each column **172** represents a time interval. The subscriber may choose one of a few exercise profiles shown, or they may use the scroll button **166** on the scroll bar **170**, to view other intensity profiles. The customize button **160** allows the subscriber to modify the session profile **162**. By clicking on the up arrow button **166** the exercise profiles **162** will scroll up to show additional exercise routines. By clicking on the down arrow button **164** the exercise profiles **162** will scroll down to show additional exercise routines. By clicking on the "Select" circle **158** the exercise profile adjacent to that button will be as the designated exercise routine.

Note that in forming the profile , a charge card and authorization for use of the card can be stored. The authorization may include renewal of membership, online or other purchases, etc. Such a profile can be useful in carrying out an on line purchase using the exercise machine while exercising, e.g., by using the specially adapted exercise machine

discussed herein.

The profile is a versatile tool. It can, depending on the embodiment, control media presented to the user while on the exercise machine, for example, video, TV, electronic magazines, shopping sites, e-mail, stock prices and business information, news reports, and even entertainment such as horoscopes, hobby information, etc. Multimedia can be enabled or controlled by the profile, with a speaker jack for headphones mounted on the exercise equipment. As discussed elsewhere herein, a joystick, touch screen, touch pad sensors on the equipment, or programmed surfing can also be carried out with the present invention. The profile is also used in setting a filter for web subject matter and content to avoid not displaying sensitive or confidential information. Additionally, the profile can store limited permission (or tokens) to enable forming groups of users, say by ability or desired exercise activities, or other partial but not complete access to data in the profile. Such limited access can also be utilized by the athletic facility, for example, in charging to a charge card number without having access to information the user deems personal.

Figure 10 represents a flowchart of activities of the present invention for modifying an exercise routine. Block **660** is a connector from Figure 8. Block **662** reads the data from the routine table **298**. In block **664** input the number of intervals in the intervals input box **518**. Block **668** calculates interval time to equal the duration divided by the number of intervals. In block **670** create a row for each interval in the routine table **298**.

In block **672** input the duration of the exercise routine in the duration input box **134**. In block **674** input the speed for each interval in the speed column **526**, and input the incline level for each interval in the incline column **528**. Block **676** plots the exercise routine in the graph **520**.

In block **678** click the update button **532**. Block **680** stores the exercise routine

in a routine table **298**. In block **684** click the clear button **534**. Block **682** returns to block **584**

of the flowchart in Figure 8.

Figure 11 shows the screen used to modify an exercise routine. A toolbar **370** is

across the top of the screen. The toolbar **370** has the exercise routine button **510**, the personal

data button **600**, and the Internet preferences button **656**.

The input matrix **522** is on the left side of the screen. The matrix **522** has an

interval column **524**, a speed column **526**, and an incline column **528**. A scroll bar **530** is on the

left of the matrix for navigating up and down the rows.

In the upper left is the routine identification display **514**.

Below the display **514** is an input box for the duration **130** of the exercise routine.

By clicking on the up arrow **132**, the duration will increase. By clicking on the down arrow

button **134**, the duration will decrease.

Below the duration **130** is the interval input box **518**. Below that input box is the

interval time input box **516**. A graph **520** of the exercise routine is in the lower right corner of

the display.

Across the bottom of the screen is the clear button **534**, and the update button

532.

Figure 12 is a schematic representation of the client performing their exercise

routine, which is secured by a password. In block **52** the client swipes an identification badge

92 through the card reader **94**. The card **92** has a magnetic strip **93**. In block **54** the computer

40 on the treadmill **2** connects to the host computer **10**. In block **56**, the computer **40** sends

identification number and password to host computer **10**. In block **58**, the host computer **10**

checks if client has a gym membership. If no, then in block **59** the host computer **10** checks to

see if the client has a credit card on file. If the client does not have a credit card on file, then

the application ends.

If in block **59** the answer is yes, then the host computer charges the credit card a usage fee for the gym, and then go to block **62**. If in block **58** the answer was yes, then go to block **62**.

In block **62** the host computer looks up the schedule for the client based upon the identification number. In block **64** the host system **1** looks up the exercise for the client on the schedule for the current date.

In block **68** the system **1** translates the exercise routine into machine-readable instructions for the actual machine type.

In block **70**, the host system **1** sends a machine-readable instruction set to the computer **40** over the network.

In block **72**, the variable n = 1. The variable n counts the number of intervals of the exercise routine. In block **74**, the treadmill **2** performs the instruction set for interval n = 1.

In block **68** the host system **1** sends Internet content and e-mail to the computer **40** over the network. In block **69** the client **101** can press a button **112** to trigger the system **1** to send Internet material or e-mail.

In block **76**, the interval counter is incremented by 1 by the computer **1**. In block **78**, the computer **10** checks to see if the number of intervals is greater than the number of intervals for the exercise routine. If no, then the computer goes to block **74** and performs the instruction set for the next value of n. If the response for block **78** is yes, then the computer goes to block **79** and logs off the client, and the program ends.

Figure 13 depicts the tables that are part of this invention for managing the data of the clients. The customer list **214** is a table of information on each customer. The customer list **214** has a field for the first name **180** and last name **182** of the customer. The first name

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180 field is an alpha field, 12 characters wide. The last name **182** field is an alpha field, 20 characters wide.

Each customer is assigned an identification number **184**; this is a numeric field, 9 characters wide. The identification number **184** is the key field which links the customer list

5   table **214**, to the health and group table **216**, to the charge card table **218**, to the Internet preference table **230**, and to the gym list table **246**.

The customer list table **214** also contains the e-mail address **186** of the customer, their zip code **188**, date of birth **190**, gender **192**, telephone number **194**, and password **196**.

10   The customer identification number **184** and the password **196** keeps the data of the client secure. The customer identification number **184** and password 196 are input in the sign-in screen of Figure 17. The customer identification number **184** is input into the "Client ID" input box **650**, the password **196** is input into the "password" input box **652** by the customer to gain secure access of their personal settings and data. The password **184** keeps the data of

15   the client secure. Without the correct password, no access is granted. The customer identification number **184** and the password **196** are also written on the magnetic strip **93** of the identification badge **92**.

A health table **216**, with identification number **184**, is created for each client. A record with the date **200**, health history **206**, weight **204**, height **202**, and body mass index **212**,

20   is created each time the "Update" button **632** is pressed. Health records are not deleted from the table **216**; additional records are added. A health list **226** is a list that contains various health conditions. By clicking on the down arrow button **648** of Figure 16, the list will drop down for the client to make a selection.

Clients may input credit card information so that purchase may be charged

against the account. Charge card information is stored in the charge card table **218**. The credit card number **222**, and the expiration date **224** are stored with the identification number **184** of the client.

Clients may input their preferences for Internet media which is displayed during the exercise session. Internet preference information is stored in the Internet preference table **230**. Their preference for e-mail **234**, weather **236**, stocks **238**, news **240**, music **242**, and sports **244** are stored with the identification number **184** of the client.

Clients select the gym for which they are members. The identification number **250** and gym membership number **252** are stored with the identification number **184** of the client on the gym list table.

Figure 14 displays the tables for managing the data of the gyms and equipment. This table **280** is filled in by using the display screen in Figure 12. The gym table **260** has a filed for the gym name **262**, a gym identification number **250**, an e-mail address **266**, a street address **268**, the city **272**, the state **274**, the zip code **276**, and the telephone number **278** for each gym.

For each gym an inventory table **280**, with the gym identification number **250**, is created. The gym identification number **250** is a key field linking the tables. The inventory table **280** is a listing of the exercise equipment of that particular gym. Each piece of gym equipment has an equipment identification number **284**. There are fields to capture the brand **286**, type **288**, serial number **290**, and model **292** of each piece of exercise equipment.

The type list **296** is a list of the various types of exercise equipment. The type list appears when the "Search" button **452** is pressed from Figure 12. By pointing and clicking on an item on the list **296**, the type field **288** is populated in the inventory table **280**.

Each exercise routine is created and stored in a routine table **298**, each with an

identification number **294**. The table **298** has a column for the interval **300**, the duration **302**, the speed **304**, the incline **306**, and the heart rate **308**. A schedule table **310** is created for each client and the client identification number **184** is assigned. The table has the date **312** of the planned exercise activity, the exercise type **314**, and the brand **270** and model **316** of the exercise equipment. The table has a column for the routine number **270**. The routine number **294** is a key field that links the routine table **298** to the schedule **310**.

Figure 15 shows an interface screen to update Internet preferences. A toolbar **370** is across the top of the screen. The toolbar **370** has the exercise routine button **510**, the personal data button **600**, and the Internet preferences button **656**. A membership identification number display **604** is below the toolbar **370** on the left side of the screen. Next to the display **604** is the clear button **602**, the log off button **603**, and the update button **632**.

Below the display **604** is the "Check Internet preferences" title **634**. Below the title **634** are check boxes to select Internet media. There is the e-mail check box **636**, the news check box **638**, the weather check box **640**, the sports check box **642**, the stocks check box **644**, and the music check box **646**.

Figure 16 a flowchart of activities describing how to update Internet preferences. Block **470** is a connector from Figure 4. Block **472** is a connector from Figure 8. Block **474** is a connector from Figure 16. Block **476** displays the screen of Figure 15. Block **478** reads data from the Internet preference table. In block **480** click on a check box to select the type of Internet media. In block **482** click on the update button **632**. Block **484** updates the Internet preference table **230**.

In block **486** click the log off button **603**. Block **488** logs the client off of the system **1**. Block **502** ends the flowchart activities.

In block **492** click the exercise routines button **510**. Go to Fig 8 in block **494**.

In block **496** click the personal data button **600**. Go to Fig 6 in block **496**.

In block **500** click the clear button **602** and go to block 476. Any modifications made will not be saved.

5   While the above description contains many specificities, these should not be construed as limitations on the scope of the invention, but rather as an exemplification of one preferred embodiment thereof. Many other variations are possible such as, but not limited to, those described in the Objects and Advantages section above. Thus, the scope of the invention should be determined by the appended claims and their legal equivalents, rather than by the principal embodiment and other examples described above.